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A methodological evaluation of psychological counseling and guidance journal content

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Abstract

This is a methodological evaluation study of the content of Turkish Psychological Counseling and Guidance Journal from 2000 to 2009. In this study, content analysis and methodological evaluation methods are used in combination. For the purpose of this study, the content of the journals from 2000 to 2009 were reviewed and their methodological thoroughness was evaluated based on some predefined characteristics. Of 140 published studies, 63 studies were in exploratory (descriptive-exploratory and survey model) and interrelationship model. There were 37 scale development/adaptation studies, 10 experimental/quasi-experimental studies, 25 literature review studies, and five qualitative studies. According to the results, the same problems seemed to appear throughout the articles. Some of the main problems were failing to identify the sampling method, effect size and power. The information regarding reliability and validity of the measurement tools were also inadequate. Finally, suggestions for future studies and implications for journal editors and higher education programs were provided.

Keywords: Methodological problems; flaws; common bias sources; research methods.

1. Introduction

According to Kruger (2003), quantitative methods give an opportunity to summarize data in many categories and make a comprehensive review possible, however, these studies has complex methodologies and requires a lot of effort to understand and use it correctly.

Being published does not mean that a study is free of methodological errors (Siebers, 2001). Studies are peer reviewed by a committee of experts after they are scanned by journal editors according to a set of standards; the relevance of topic to the journal's content, the main methodological design, language use and also its appropriateness to APA format. American Psychology Association has a comprehensive book, reporting the rules for a publication, such as headings, pages numbers, and citations in text, references, tables, and figures and on many more topics. Bangert-Drowns and Rudner (1991) reported that it is hard to compare studies because of the variations in terms of the methods used in the studies and favors meta-analytics reviews.

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It is important to get published in peer reviewed journals. It is also important to be referred by other researchers. Many journals have a set of rules for publication. There are studies searching the effect of publications on the pays of academicians according to their titles (Diamond, 1986). On the other hand, Lykken (1987) questioned the poor quality of the studies in psychology area and reported that two of the third of the studies in psychology area do not get any citations by other researchers. Edmond (2008) also stated that the vast majority of the peer-reviewed articles, even the ones published in the leading scientific and medical journals, are hardly ever cited. Dalen and Klamer (2005) reported that it takes longer for a study in social studies to get noticed and according to Scientific Information Institute's research 20% of the citations are made by the authors referring their own studies. All of these question the credibility of getting published or being cited in order to decide the quality of a published work. Therefore, there is a need to evaluate the published work in journals according to a set of well crafted criteria.

Kerlinger (1969) emphasizes how important to have basic knowledge of data analysis strategies by stating that a researcher without proper skills is a "scientific cripple". Fowkes and Fulton (1991) defined some selected guidelines for evaluating research effectively. Nylenna, Riis, and Karlsson (1994) compared the results of multiple blinded reviews of the same two manuscripts, a Scandinavian and an English version, with a number of known methodological problems. According to the results, English versions were evaluated as better than the national-language version. They also stated that young referees takes their job serious and work with care. According to Osborne and Waters (2002), there are few studies checking out the assumptions before using parametric tests. Tulving and Madigan (1970) independently evaluated 540 published articles and stated that two thirds of the studies do not contribute to the area. The purpose of the current study is methodologically evaluating the content of Turkish Psychological Counseling and Guidance Journal, published in an era from 2000 to 2009 focusing on their methodologies. An earlier study on the content of the same journal was analyzed by the same researchers from 2000 to 2005 (Başol & Koçak, 2006). There are five main questions in this study to be answered. These are:

1. What are the main characteristics of the published work in *Turkish Psychological Counseling and Guidance* Journal in terms of publication year, researcher's title, gender during the interval of 2000 to 2009*?*
2. What is the distribution of research designs used in the studies?
3. What is the distribution of sampling methods used in the studies and were they reported accordingly?
4. To what extent do researchers provide accurate information regarding the variables used in the studies, design, application, and issues related to the application?
5. To what extent do researchers provide information in *Turkish Psychological Counseling and Guidance Journal's* content in terms of some other methodological issues?

2. Major Methodological Problems in Studies

3. Method

3.1. Content of the Study

In this study, content analysis method was used in order to evaluate the quality of published research in Turkish Psychological Counseling and Guidance Journal. A total of 140 articles were selected as the content of the study. All 140 studies, published in 19 (13-31) issues, from 2000 to 2009 in Turkish Psychological Counseling and Guidance Journal were analyzed. The number of articles in each issue ranged from 4 to 11 year to year.

All studies were coded on a standard coding form. The coding was carried in the order studies published and they were numbered to make sure the single representation in the sample. The coding form was developed by the first author and it consists of 45 items mainly related the methodology used in the studies. The items are prepared based on the standards set for researchers by several peer reviewed journals, research on methodological reviews, and text book information. Expert opinion was gathered before deciding the final coding form. Items are answered on a four point Likert scale (Present, Absent, Partly Present, Do not Apply). The first part of the form is consisted of 12 items, related to some study characteristics, such as, publication year, author name, number of authors, academic title of the first author, and his/her affiliated organization. In the second part, there were 24 items related to the methodological characteristics of the study, such as, sampling methods, research design, procedures, data collection tool, the information regarding their validity and reliability of the instruments, statistical analysis and the report of the findings. The third part consists of 9 items, related to the statistics used in the studies. As far as the

inclusion and exclusion criteria, all 140 studies, published in 19 issues from 2000 to 2009 included in the study sample. Because of the variation in their methodologies, literature review, qualitative, and scale development/adaptation studies were excluded from data pool for question 3, 4, and 5. The remaining 73 studies (63 exploratory and 10 experimental/quasi-experimental studies) were coded on all categories of the coding form. Coding of each article takes about 30 minutes. 140 studies were coded in a month by two coders that were the researchers in the current study. Coders worked independently. In order to increase the validity of the form, a detailed literature review was carried on focusing on papers on methodological evaluation and the leading peer reviewed journal standards. The studies were coded journal by journal by using the same standard 45 item coding form. The studies were numbered to make sure each study was coded once. To make sure of the agreement between the coders, a pilot study was conducted. For this purpose, a sample of 9 articles (one journal) was coded by both coders separately and Cohen's Kappa statistics (a chance-corrected measure of proportion agreement) was used to determine the reliability between the coders. An overall K of .92 was obtained which was considered excellent (Landis & Koch, 1977). The data derived from the coding forms were analyzed by using frequency and percentage components in SPSS 15.00.

4. Findings

Findings were provided in five sub headings, one for each research question. The data was transformed into percentages due to the varying number of studies included for answering each questions.

4.1. The Main Characteristics of the Studies

There were 77 studies (52%) carried out by assistant professors, 12 by associate professors, 10 by research assistants, nine by instructors and 4 studies were carried out by professors. Surprisingly, there were nine authors who do not state their title in the article. Therefore, assistant professors have the lead while the associate professors are in the second row. These results can point out to the fact that who has more pressure to publish are the ones working harder. It was seen that while the number of the studies are 10-11 by the year 2003, this number was increased to 15-21 later on. There were studies carried on with multiple researchers. The number of the researchers in a study went up to five. There were 85 single author studies, whereas 26 authors have two studies, 10 authors with three, and two authors with four, three authors with five, one author with six and another one with nine published studies in the same journal. Ninety-four studies (67%) the first author was a female researcher, while in 46 studies (33%) a male researcher was the leading author. According to findings, female researchers (51/85= .60) prefer working alone more than their male colleagues (34/77= .40).

4.2. Research Methods Used in the Study

When the studies were compared according to their methodology, it was seen that 45 percent of the studies (63/140) were exploratory, interrelationship, and causal comparative studies. Of these 63 studies, 37 were causal comparative, 13 interrelationship and 13 were causal-correlational studies. There were 10 (10/140) experimental studies corresponding to 7.1%. Unfortunately, in most of the studies (63%), researchers were failed to report the design used in the study and it was left to the reader's guess. The number of female researchers according to the gender variable was higher than male researcher in all methods. According to the study design, it was interesting to see that 20 of 25 literature review studies were authored by female researchers, while this rate was 23/37 for scale development/adaptation studies, and 8/10 for experimental/quasi experimental studies. There were 63 studies using exploratory or interrelationship designs and 40 of these studies were carried out by female researchers. Results indicated that studies using exploratory design have the lead with an increase after year 2004. The numbers of qualitative and experimental/quasi experimental studies were limited. Out of 73 studies, in 25 studies (34%) research method was provided by the researcher, in the remaining 48 studies (66%) the method was left to readers' guess. According to authors' organization variable Hacettepe University has the lead with 16 articles, Middle East Technical University comes in the second raw with 15 studies and Gazi University is in the third raw with 14 studies, and Çukurova University is in the fourth raw with 13 studies.

4. 3. Sampling Methods and Sample Characteristics

There are 73 studies (excluding the number of literature review, qualitative studies and scale development/adaptation studies) regarding the sampling method variable. Twenty-six studies out of 73 (36%) verified the sampling method. Random assignment of subjects has known to increase the generalizability of the studies. However, there were only 7 studies out of 73 explorotory studies using random sampling. Variety of sampling methods was reported from cluster to proportionate, random to convenient, natural to the combination, and proportionate clustering to random clustering. There were also three studies reporting their sample as "volunteers". While the researchers failed to report sampling methods however, the number of participants and characteristics such as gender and class were reported in most of the studies accordingly. The variety of the concepts used when the sampling method section is defined caused a rightful suspicion on the presence of concept confusion among researchers. Studies reporting their sampling method as random, reported as either "tesadüfi" or "random". Although these words were also used in Turkish research text books for random sampling interchangeably, the problem is the word "tesadüfi" also has a meaning as "haphazard", for that reason it was suspected that some of the researchers might be using word "tesadüfi" instead of the word "convenient". There was also no information about sample adequacy, whether the sample sizes were enough or not in most of the studies, how the sample size was decided or whether the sampling method was appropriate or not. Authors did not report small sample size in cells as a limitation; meantime non-parametric statistics were used in many studies. There were only four studies (5.5%) out of 73 studies mentioning statistical power. Effect size was not reported in any of the studies. One may wonder whether this could be due to small effect sizes. Deng (2005), reviewed over 200 dissertations in educational leadership and educational administration area and calculated 2.629 effect sizes. Results indicated that overall dissertations had small effect sizes based on the Cohen's criteria.

4. 4. Findings Related to Variables, Methodology and Application

In most of the studies, the dependent and the independent variables were not stated and left to reader's guess (93% for dependent variable, 90% for independent variables). Perhaps the page limitations force the researchers not to mention their variables in a separate sentence. The studies were also reviewed according to the data collection process; the results indicated that out of 73 studies, 44 studies included information regarding the data collection process, while 25 studies partly mentioned this information and there was no information in two studies. The time provided for the participants to fill out the measurement instruments were provided in 17 studies (25%) out of 73, 49 studies (67%) did not report this information and two studies partly reported. Out of 73 studies, 21 studies reported that the required permissions are granted for study (29%), while there were no information in 52(71%) of the studies on this variable. In terms of the piloting, there was only one study mentioning a pilot study. Of 73 studies, in 24 studies problem or sub-problems, in 7 studies hypothesis were provided. Although the hypotheses were not provided, the analysis and results indicated that all studies used Fisher's hypothesis testing approach. Out of 73 studies that hypothesis testing was applied, 9 studies (12%) mentioned the assumptions that were required for a certain statistical test, while the other studies used the statistical tests without any mention of assumptions. A study, testing normality assumption for an analysis of variance study, can be given as a positive example in this sense. Osborne and Waters (2002) also stated the importance of meeting the assumptions before the use of certain parametric tests. As positive examples, the purpose of the study was present in all 140 studies in the sample and there were also a couple of studies that were standing out with their methodologically sound designs.

4. 5. Information Regarding Data Collection Tools, Limitations, Assumptions, Extreme Scores

Review results indicated that surveys based on the primary data were used in most of the studies. In seven studies questionnaires were used, while 59 studies preferred scales. The scales were namely identified in all of the studies, yet not in detail. 74% of the studies provided reliability information, while 71% of the studies reported the information on validity. However, the reliability information often was limited to calculation of Cronbach Alpha coefficient; meanwhile the validity information was usually limited to the content validity or report of the original scale development or adaptation studies' results. Hutchinson and Lovell (2004) also stated that one third of the studies in their analysis presented thorough or partial/past reliability estimates, and studies reporting thorough validity information were 2%. There was limited information on the appropriateness of the instruments for

measuring a certain construct. In the studies, the return rate either was not reported (84%) or partly reported (6%). Interestingly, in one of the studies the researcher gave the number of non-returned instruments while the return rate calculation was as easy as a simple division of the returned instruments to the number of the total instruments given. There were only three studies providing information regarding the extreme cases in the studies. Out of 73 studies, there was not any mention of confidence intervals or how missing cases were treated. Study limitations were provided in six studies out of 73 studies and 33/73=45% of the studies stated statistically significance rate. There was no information regarding the confidence intervals and three studies 3/73= 4% referring the practical significance of their results.

5. Discussion and Conclusions

In conclusion, there are methodological variations among the studies. We can say that much can be done to increase the quality of published research. This is certainly not to say, there are not any methodologically sound studies. The suggestions that are for all of the researchers who publish and get published follow:

1. The studies in this evaluation study also reviewed according to their appropriateness to APA criteria. It seems that the journal has its own guidelines that are not completely in line with APA standards. A sample template file prepared according to APA can be generated and the researchers can be asked to fit their studies into that template. While the articles are evaluated along with APA standards, the use of a criterion can improve the quality of review.
4. The results also indicated that professors and associate professors should be encouraged to publish more. With reward and incitements, the researchers need to be encouraged to produce studies that are more focused on the subject and the methodology and better in quality. Taken together, the findings suggest that referees should give better care to the methods sessions of the articles.
5. Experience is a great teacher; however, the dynamism of the youth in referee committees can help to improve the quality of the published work.

At last but more importantly, referees should ask researchers to spell out their sampling procedures; how the sample size was decided, whether it was planned before the application and how many they have attained, the rate for valid instruments and how they dealt with missing cases. Having a methodologist in every review committee can also be beneficial. Better studies are published; referees will start receiving studies with fewer problems because it is common for researchers to look at the present publications before sending their articles. Only way to improve the quality of the published work is being selective and publishing after a careful screening process. Therefore, journals and referees should reconsider their criteria for submission and publication.

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